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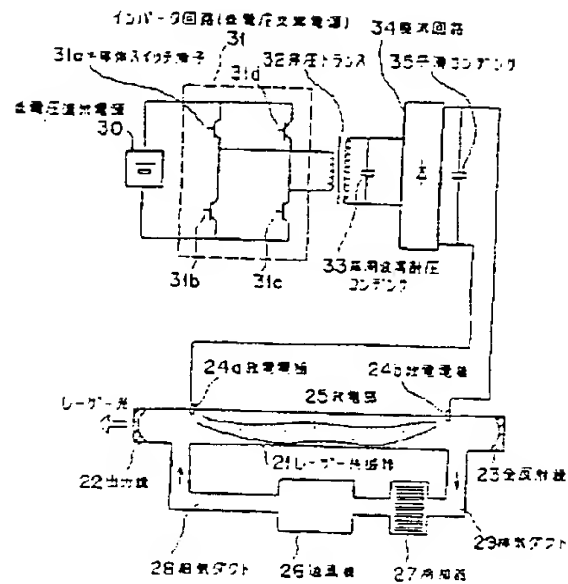
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TITLE : GAS LASER APPARATUS



ABSTRACT : PURPOSE: To make a high-voltage power supply small-sized by a method wherein a capacitor is connected in parallel with a rectification circuit between secondary output terminals of a boosting transformer and the rectification circuit and a capacity obtained after the capacity of the capacitor has been squared by the turn ratio of the boosting transformer and the parallel resonance frequency of a primary inductance of the boosting transformer are set at 0.7 to 0.9 time the lower-limit value of an output frequency of a low-voltage AC power supply.

CONSTITUTION: Regarding the frequency characteristic of a primary impedance of a boosting transformer 32, a frequency whose impedance displays a maximum value appears; the frequency coincides with a capacity obtained after the capacity of a capacitor 33 on the secondary side has been squared by the turn ratio of the transformer and with the parallel resonance frequency of a primary inductance of the boosting transformer 32. When the parallel resonance frequency is set at 0.7 to 0.9 time the lower-limit value of an output frequency of an inverter circuit 31, an output drooping characteristic at the connection to a high-voltage power supply can be made to coincide with a very small electric current region which is dropped to a voltage to maintain an electric discharge from a firing voltage when the output frequency of the inverter circuit 31 is set at 1.1 to 1.4 times the parallel resonance frequency.

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